

Appl. No. 09/781,842
Reply to Office action of January 6, 2004

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-22. (Cancelled)

23. (Currently amended) A controlled release additive composition for use in an open circulating cooling water system comprising:

a solid, granular, or particulate core comprising an additive component including a microbiocide effective in an open circulating cooling water system; and

a coating substantially surrounding the core and effective to slow the release of the additive component into the open circulating cooling water system, the coating being insoluble in the open circulating cooling water system and including a copolymer made up of units ~~of only two different monomers~~ from only a first monomer and a second monomer different than the first monomer, the units from the first monomer constituting about 45% to about 95% by weight of the copolymer and the units from the second monomer constituting about 5% to about 55% by weight of the copolymer.

24. (Previously presented) The controlled release additive composition of claim 23, wherein said coating includes a copolymer made up of units from vinylacetate and an ethylenically unsaturated monomer.

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25. (Previously presented) The controlled release additive composition of claim 23, wherein the coating includes a copolymer made up of about 45% to about 95% by weight of the units which are from vinylacetate and about 5% to about 55% by weight of the units which are from an ethylenically unsaturated monomer.

26. (Previously presented) The controlled release additive composition of claim 23, wherein said coating includes a copolymer made up of units from vinylacetate and vinylversatate.

27. (Previously presented) The controlled release additive composition of claim 26, wherein the coating includes a copolymer made up of about 45% to about 95% by weight of the units which are from vinylacetate and about 5% to about 55% by weight of the units which are from vinylversatate.

28. (Previously presented) The controlled release additive composition of claim 23, wherein said coating includes a copolymer made up of units from vinylacetate and ethylene.

29. (Currently amended) The controlled release additive composition of claim 23, wherein ~~said coating includes a copolymer made up of units from two monomers~~, the first and second monomers are selected from the group consisting of vinylversatate and ethylene.

30. (Cancelled)

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31. (Previously presented) The controlled release cooling additive composition of claim 23, wherein said coating includes a copolymer made up of units from acrylate and vinylversatate.

32. (Cancelled)

33. (Previously presented) The controlled release additive composition of claim 23, wherein the weight percent of the coating is about 1% to about 40% based on the total weight of the controlled release additive composition.

34. (Previously presented) The controlled release additive composition of claim 23, wherein the weight percent of the coating is about 3% to about 15% based on the total weight of the controlled release additive composition.

35. (Previously presented) The controlled release additive composition of claim 23, wherein the weight percent of the coating is about 4% to about 10% based on the total weight of the controlled release additive composition.

36. (Previously presented) The controlled release additive composition of claim 23, wherein said core further comprises an amount of a binder sufficient to maintain said core in the form of a tablet or pellet.

37. (Previously presented) The controlled release additive composition of claim 23, wherein said core further comprises a die release agent.

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38. (Previously presented) A controlled release additive composition for use in an open circulating cooling water system, the composition comprising:

a solid, granular, or particulate core comprising an additive component effective in an aqueous coolant of an open circulating cooling water system; and

a coating substantially surrounding the core and effective to slow the release of the additive component into an aqueous coolant in the open circulating cooling water system, the coating being insoluble in the aqueous coolant in the open circulating cooling water system, and including a polymer selected from the group consisting of homopolymers, and copolymers including units obtained from only two different monomers, provided that one of the two different monomers is selected from the group consisting of vinylversatate and ethylene.

39. (Previously presented) The controlled release additive composition of claim 38, wherein the polymer is a copolymer including units obtained from only two different monomers.

40. (Previously presented) The controlled release additive composition of claim 39, wherein the copolymer includes units from vinylacetate.

41. (Previously presented) The controlled release additive composition of claim 39, wherein the copolymer includes units obtained from vinylversatate.

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42. (Previously presented) The controlled release additive composition of claim 39, wherein the copolymer includes about 45% to about 95% by weight of units obtained from one of the monomers and about 5% to about 55% by weight of units obtained from the other monomer.

43. (Cancelled)

44. (Previously presented) The controlled release additive composition of claim 39, wherein the coating is about 1% to about 40% based on the total weight of the composition.

45. (Previously presented) The controlled release additive composition of claim 38, wherein said additive component includes a microbiocide effective in the open circulating cooling water system.

46. (Previously presented) A method of releasing an additive composition into an open circulating cooling water system comprising placing the controlled release additive composition of claim 23 in contact with an aqueous coolant present in an open circulating cooling water system.

47. (Previously presented) A method of releasing an additive composition into an open circulating cooling water system comprising placing a controlled release additive composition in contact with an aqueous coolant present in an open circulating cooling water system, the controlled release additive composition comprising

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a core comprising an additive component effective in an aqueous coolant of an open circulating cooling water system; and

a coating substantially surrounding the core and effective to slow the release of the additive component into an aqueous coolant in the open circulating cooling water system, the coating being insoluble in the aqueous coolant in the open circulating cooling water system, and including a polymer selected from the group consisting of homopolymers, and copolymers including units obtained from only two different monomers, provided that one of the two different monomers is selected from the group consisting of vinylversatate and ethylene.

48. (Currently amended) A method of releasing an additive composition into an open circulating cooling water system of a cooling tower comprising

placing a controlled release additive composition in contact with an aqueous coolant present in an open circulating cooling water system of a cooling tower, the controlled release additive composition comprising

a core comprising an additive component effective in an aqueous coolant of the open circulating cooling water system of the cooling tower; and

a coating substantially surrounding the core and effective to slow the release of the additive component into the aqueous coolant in the open circulating cooling water system, the coating being insoluble in the aqueous coolant in the open circulating cooling water system of the cooling tower, and including ~~a polymer selected from the group consisting of homopolymers, and copolymers including units obtained from only~~

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two different monomers— a copolymer made up of units from a first monomer and a second monomer different than the first monomer, the units from the first monomer constituting about 45% to about 95% by weight of the copolymer and the units from the second monomer constituting about 5% to about 55% by weight of the copolymer.

49. (Previously presented) The method of claim 48, further comprising adding a microbiocide to the additive component of the core before placing the controlled release additive composition in the open circulating cooling water system.

50. (Currently amended) A method of releasing an additive composition into an open circulating cooling water system of a cooling tower comprising:

placing a controlled release additive composition in contact with an aqueous coolant present in an open circulating cooling water system of a cooling tower, the controlled release additive composition comprising a core comprising an additive component effective in an aqueous coolant of the open circulating cooling water system of the cooling tower; and a coating substantially surrounding the core and effective to slow the release of the additive component into the aqueous coolant in the open circulating cooling water system, the coating being insoluble in the aqueous coolant in the open circulating cooling water system of the cooling tower and including a copolymer made up of units from a first monomer and a second monomer different than the first monomer, the units from the first monomer constituting about 45% to about 95% by weight of the copolymer

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and the units from the second monomer constituting about 5% to about 55% by weight of the copolymer; and

adding a microbiocide to the open circulating cooling water system of the cooling tower.

51. (Previously presented) The method of claim 50, wherein the microbiocide is added to the open circulating cooling water system with the controlled release additive composition.

52. (Previously presented) The method of claim 50, wherein the coating comprises a copolymer made up of units of only two different monomers.

53. (Previously presented) The method of claim 50, wherein the coating of the composition is insoluble over a temperature range of about 70 degrees Fahrenheit to about 150 degrees Fahrenheit.